25. ariýáyaṃ dutiyaḍ̣̣he gaditákhilalakkhanaạ yantạ̣ bhavati dales' ubhayesu pi yadi yassá sá yam upagíti.
26. ariyáy 'aḍḍhadvitayam ${ }^{1}$ pubboditalakkhaṇopetam ${ }^{2}$ vipariyayenábhihitam yassá sambhavati ce 'ha soggíti.
27. ariyá pubbaḍḍhaṇ yadi garun 'ekenádhikena nidhane yuttaṇ yadi pubbaḍḍhasamánaṃ dalam itarañ coditá yam ariyágíti.

## Gitijátiyo.

28. visame cha siyum kalá mukhe same tv atṭha ra la gá tato 'pari ${ }^{3}$
vetálíyan tam uccate ; lahuchakkaṃ na nirantaraṇ same.
29. vetálíyopamaṃ mukhe tạ̣ opacchandasakạ̣ ra yá yad ante.
30. ápátaliká kathitá 'yaụ bha ga gá 'nte yadi pubbamiv' aññaṃ.
31. yad ádito lakkhanantiká ${ }^{4}$ thit' ettha padesvákhilesu' jo.
32. udiccavuttítiv-uccate ${ }^{6}$ jo c' ádo visamesu sanṭhito.
33. pubbattha samesu' ce ga já paccavuttir uditá 'ti saṇthitâ. ${ }^{8}$
34. samásamá' 'tr' ádinaṃ${ }^{9}$ samásaṃyutá bhavati taṇ pavattakaṇ.
35. assa sá ${ }^{10}$ samakatá 'parantiká.
36. tad aññajá cáruhásiní. ${ }^{12}$

## Vetálíyajátiyo.

37. dvikavihatavasulahur ${ }^{12}$ acaladhitir iha. ${ }^{13}$
38. mattásamakaṃ navamo lgá 'nte. ${ }^{14}$
39. jo nlà'15 'thavá 'ụnavá visiloko. ${ }^{16}$
40. tadvayato vánavásikáhkyá. ${ }^{17}$
41. pañcaṭ̣hanavasu yadi lo citrá.
```
1 dvikayam, M.
2 lakkhanúpetam, C.
* cha kalá siyum same tâtṭha ra lagá tato 'pari, C.
4 dakkhiṇantiká, C.
{ } ^ { 5 } \text { pádosálkhilcsu, C.}
6}\mathrm{ vuccati, C.
7 pubbaddhasamesu, M.
8 paccaruttit 'uditá 'ti, M. paccavuttir uditeti sanṭhito, C.
9 ádínam, C and M.
10 yá, C.
12 cárubhásiní, C.
12 vihatávasulahu, Mr.
13 acaladhiti, C; acalathitir iha, M.
14 la g' 'ante, C. 1g'ante, M
15 na lá, C.
16 visiloko náma, M.
17 tan ca yato vánavásiká 'kkhyá, C.
```

42. ga lyá 'țṭhahi ${ }^{1}$ ce sá-v-upacitrá.
43. yam atítalakkhaṇavisesayutta- ${ }^{2}$ mattásamádi pádábhihitam ; aniyatavuttaparimánasahitam, pathitaṃ ${ }^{3}$ janesu pádákulakaṃ.

## IIattásamalajáátiyo.

44. viná vaṇ̣chi mattá gá, viná vaṇ̣á garúhi tu, viná lahúni garavo, dale pathyádino, matá. iti${ }^{7}$ mattávuttániddeso dutiyo.
45. tyá ce tanumajjhá.

## Gáyatti.

46. kumáralalitá jsgá.

## Unhi.

47. citrapadá yadi bhá gá.
48. mo mo go go vijjummálá.
49. bhás ta la gá máṇavakaṃ.
50. glá samáṇiká ra já ca.
51. pamáṇiká ja rá la gá.

Anutthubhan.
52. ráa na sá yadi halamukhí.
53. bhujagasusu matá ${ }^{7}$ ná mo.

## Brahati.

54. msá jgá suddhavirájitaṃ ${ }^{8}$ mataṃ.
55. mná yo go yadi paṇavo 'khyáto. ${ }^{\text {º }}$
56. bhmá-sa-ga-yuttá rummaratí sí.
57. neyyá mattá ma-bha-sa-ga-yuttá.

[^0]58. campakamálá ce bha ma sá go.
59. na-ra-ja-gehi sa manoramá.
60. ubbhásakan taṃ ce to mà rá lea. ${ }^{\text {² }}$

## Panti.

61. tjá jgá garuná 'yam upaṭthitá sá. ${ }^{2}$
62. indádilía tá vajirá ja gá go.
63. upádiká sá 'va ja-tá-ja-gá go.
64. anantarodíritalakkhanáá ce ${ }^{3}$
pádá vimissá upajátiyo tá
evaṇ kil' aññásu vimissitásu ${ }^{4}$
vadanti játisv idam eva nảmạ̣.
65. sa ja já la gá gaditá sumukhís
66. dodhakam icchati ce bha bha bhá gá.
67. ved'assehi ${ }^{6}$ mtá tga gá sáliní sá.
68. vátummissá ${ }^{7}$ yati sá mbhá ta gá go.
69. bhá ${ }^{8}$ ta na gá go surasasirí1 sá.
70. ro na rá iha ${ }^{10}$ rathoddhatá la gá.
71. svágateti ra na bhá garuká dve.
72. na na ra lahu-garúhi bhaddiká.

## Tut!thubham.

73. vadanti vạ̣satṭḥam idaṃ ja tá ja rá.
74. sá-y-indavaṃsá ${ }^{12}$ khalu yattha tá ja rá.
75. idha totakam ambudhi sehi mitaṃ.
76. dutavilambitam áhu ${ }^{12}$ na-bhá bha-rá.
77. vasu-yuga-viratí ná myá puṭo 'yam... ${ }^{13}$
78. na-ya-sahitá nyá kusumavicittá.
${ }^{1}$ ubbhásakam tan ce to ma ra lva, C; ubbhásakan tam ce to ma rála, M.
${ }^{2}$ yam upatṭhitá, C; sá, wanting in C.
${ }^{3}$ lakkhaṇo ce, M.
${ }^{4}$ kir' annásu pi missitásu, C ; kir,' M.
${ }^{5}$ sumukhí gaditá, C.
${ }^{6}$ vedessehí, B.
7 cátummí sá, C.
${ }^{8}$ bho, M.
${ }^{9}$ surassirí, C.
${ }^{10}$ idha, C.
${ }^{12}$ sá indavamsá, C.
${ }^{22}$ áha, M.
${ }^{13}$ putho 'yam, C.
79. bhujangappayátaṇ ${ }^{1}$ bhave veda-yehi.

S0. na-bha-ja-reli bhavati ppiyamvadá.
81. vuttá sudhíhi lalitá ta-bhá ja-rá.

S2. pamitakkhará sa-ja-sa-seh' uditá.
S3. na-na-bha-ra-sahitá 'bhihit' ujjalá.
84. pañc' assa-cchinná ${ }^{2}$ vessadeví ma-má yá.

S5. bhavati ${ }^{3}$ hi támarasaṃ na ja-já yo.
86. kamalá ti ñeyyá sa-ya-sehi yo ce. ${ }^{4}$

## Jagati.

87. mná jrá go ti-dasa-yati ppahásiní sá. ${ }^{5}$
88. catuggaheh' iha ${ }^{6}$ rucirá ja-bhá sja gáa. ${ }^{7}$

## Atijagati.

S9. na-na-ra-sa-lahu-gá sarchi 'parájití.
90. na-na-bha-na-la-g' iti ppaharaṇakaliká.
91. vuttá vasantatilaká ta-bha-jẩ ja-gá-go.

## Sakikarí.

92. dvihata-haya-lahu-r atha g' iti ${ }^{9}$ sasikalá.
93. vasu-haya-yati-r idha maṇigunanikaro. ${ }^{10}$
94. na-na-ma-ya-ya-yutá 'yaṃ ${ }^{11}$ máliní bhog-isíhi.
95. bhavati na-já bha-já ra-sahitá pabhaddakam.

AtisakTarí.
96. na-ja-bha-ja-rá yadá ${ }^{12}$ bhavati vániní ga-yuttá.
Ațthi.
97. ya-má no so bha-lg'á ${ }^{13}$ rasa-hara-virámá sikhariụí.

```
\({ }^{1}\) bhujagappayá tam, C.
\({ }^{2}\) pañcîssa, C: chinná, M.
3 vadati, C.
4 yo ve, C.
\({ }^{5}\) ppabhásiní, C.
\({ }^{6}\) catuggahehi bha, C.
\({ }^{7}\) sa já g, C ; sa-j-gáa, M.
\({ }^{8}\) na bha já, C.
- g'îti, C.
10 manigranikaro, C.
\({ }^{11}\) nam, M.
12 sadá, C and M.
13 bha la gá, C : bho l-g’á, M.
```

98. rasa-yug-isito no so mrá slá ${ }^{1}$ gyadá hariṇí tadá.
99. mandakkantá ${ }^{2}$ ma-bha-na-ta-ta-gá go yug-utv-assakehi. ${ }^{3}$

## Atyatthi. ${ }^{4}$

100. mo to no yo ${ }^{5}$ yá kusumitalatávellit' ${ }^{\prime 6}$ akkh' utv-isíhi.

## Dhuti.

101. ras'-utv-assehi ymá na-sa-ra-ra-garú meghavipphujjitía ${ }^{8}$ sa. 102. akk' assehi-yati msa-jå sa-ta-ta-gáa saddúlavikkílití. ${ }^{\text {º }}$

## Atidhuti.

103. vuttam ídisan tu námato ra-já ra-já ra-já garullahú ca. ${ }^{11}$

Kati.
104. mrá bhná yo yo 'tra yena tti-muni² ${ }^{12}$-yati-yutá saddhará kittitá 'yam.

> Pakati.
105. bhrá na-ra-nár ra-ná c' atha ${ }^{13}$ garuddasakka-viramáhi ${ }^{14}$ bhaddakamidaṃ,
$A^{\prime}$ 'rati.
iti samavutta paricchedo tatiyo.
106. visame yadi sá sa-la-gá same bha-ttayato garuká-r- ${ }^{15}$ upacittaṃ.
107. bha-ttayato yadi gá rutamajjháa ${ }^{16}$ yadi puna-d-eva ${ }^{17}$ bhavanti najá jyá.
108. yadi sa-ttitayaṃ garuyuttaṃ vegavatí18 yadi bha-ttitayá gá.

```
2 ma ra sa la, C.
2 mandákkantá, C.
3 assagehi, M.
4 accatt!hí, C.
5 mo to yo no, C.
6 velalitá, C.
7 ya má, C.
8 vipphujitá, C; vipphujjiká, M.
* yadí ma sa ja, C.
10 saddúlavikkílitam, C; vikkíliní, M.
11 guru lahu ca, C ; garullahuñ ca, M.
12 ma ra bha ná yo yo ta yena n timuni, C.
13 ná 'tha ca, C.
14 viramam, C.
15 guruká-v, C ; garugá c', M.
16 dutamajjhá, C.
17 punareva, C.
18}\mathrm{ vegavati, C.
```

109. to jo visame rato garu cce ${ }^{1}$ msá jgá bhaddavirájam ettha go ce.
110. visame sa já sa garuyuttá ketumatí same bha ra na gá go.
111. ákhyánikáa ta visame ja gá go ja tá ja gá go tu same 'tha páde.
112. ja tá ja gá go visame same tu tá jo ga gá ce viparítapubbá.
113. sa sato sa la gáa visame same na bha bha ra bhavate ${ }^{3}$ hariṇaplutá.
114. yadi na na ra la gá na já ja rá yadi ca ${ }^{7}$ tadá 'paravuttam icchati.
115. visamam upagatá na ná ra yá ce na ja ja ra gá samake ca pubbitaggá. dvayam idam vetálíyappabhedo.
116. sá yavádikámatis ra já ra já tvasame same ${ }^{6}$ ja rá ja rá garu bbhaveyyuṃ. iti add dascma-vuttaparicchecto catuttho.
117. n' aṭthakkharesu pádesu sn' ádimhá yo 'ṇ̣̣ava vattaṃ.
118. samesu sindhuto jena pathyávattạ̣ pakittitam.
119. ojesu jena sindhuto tam eva viparítádi.
120. na-káro ce jaladhito capalávattam icc etam.
121. same lo sattamo yassá vipulá Pingalassa sá.
122. Setavassákhilesu pi.
123. bhen' ạ̣̣aví ${ }^{8}$ tabbipulá.
124. evam añũa ${ }^{9}$ ro catuttho.
125. no 'ṃṇavá ce na-vipulá.
126. to 'ṃุ̣avá tathá 'ññá siyá.
vattappabhhedo.
127. na dissat' ettla yaṃ chandaṃ payoge dissate ${ }^{10}$ yadi. visamakkharapádan taṃ gáthá sámaññanámato. iti visamavuttaparicchedo pañcamo.
128. pattháre sabba-ge páde pubba-gá 'dho lpare samá. pubbe garu te ca-m-ime ${ }^{11}$ kattabbá yáva sabba-lá. ${ }^{12}$

[^1]129. natthassa yo bhaveyy' anko tasmin lo 'ddhikate same visame tv ekasahite bhaveyy' addhikate gar'u.
130. ekádinukkamen' añke pubbá 'dho dviguṇe likhe missitehi lahutthehi sekeh' uddiṭthakaṃ bhave.
131. vuttakkharasamá sañkhyá likkhya' s'ekopar' úpari ekekahínam ekádin' uṭṭháne sabbagádikaṃ.
132. garukriý́ 'ñkasandohe bhave sañkhyá vimissite ${ }^{2}$ udditth' an̉kasamáháro seko vemaṃ ${ }^{3}$ samánaye.
133. sañkhyeva dviguṇekúná vittháráyámasambhavá ${ }^{4}$ vuttass' addhántaránañ ca garu-lánañ ca añgulam. iti Sangharakkhitatherapádaviracite Tuttodaye chandasi chappaccayaviלhágo náma chattlho paricchecro. ${ }^{5}$
[eso [eso
nam yassappabhavamavalambamay' edisopi ${ }^{8}$ sampádito 'bhimatasiddhikare
135. paratthasampádanato puñ̃nenádhigaten' ahạ̣ [parattho. paratthasampádanako bhavey yaụ játijátiyaṃ.
136. avalokitamattena yathá chappaccayá mayá sádhitá sádhiyantevam ${ }^{9}$ icchitattham pi páṇino.

Tuttodayapakaranam nittthitam.

[^2]End of Text.

## TRANSLATION.

1. Praise be to the Chief of Sages, beautifully pure, radiant with the glory of virtue, who dispels the universal ignorance of mankind.
2. The formerly written prosodies of Pingala and others, are not suited to the Mágadha people.
3. Therefore, distinguishing verses measured by feet from those regulated by time, together with the distinctive peculiarities of each, (made into) an understood series of poetry,
4. This Vuttodaya, a collection of secular prosody, I will now commence in the language of the Mágadha people for their instruction.
5. (That foot is called) $m a$, (the three syllables of which are) all long; (that is) $n a$, (the three syllables of which are) all short; bha, has the first long ; $y a$, the first short ; $j a$, the middle long ; $s a$, the last long ; ra, the middle short ; ta the last short. These are the eight feet; go (stands for) garu (heavy); lo (for) lahu (light).
6. Be it known that the five feet, $\measuredangle h a, j a, s a, m a, n a$, are used in the Ariyá and other metres of that class. In that class a foot consists of four syllabic instants (kala).
7. A vowel preceding compound consonants, a long vowel preceding the niggakita, and optionally a vowel at the end of a quarter verse are heavy, and indicated by a bent mark ; the other, a short vowel, measuring an instant of time, is light, and indicated by a straight maris.
8. Be it known, that a heavy vowel-preceding compound consonants at the beginning of a quarter verse-is sometimes light, as in the subjoined illustration:
dassanaraśanubhavane nibaddhagedha jinass' ayaṃ janatá vimhayajananí saññata kriyá nu kan nanurañjayate.
9. Be it known, that the terms samuddo, usu, rasa and the like, are used in the popular sense ; páda is the fourth part of a verse ; yati is verse division.
10. Metre is threefold, either sama, addhasama or visama. That is sama, the quarters of which are similar in character.
11. That is addhasama, which has its first and third, and second and fourth respectively alike. That is visama, which has quarters dissimilar in character.
12. Metres vary in length from one up to twenty-six syllables in a quarter verse.
13. Chants such as the Daṇaaka, Canḍavuṭthi and the like, and metres having three or even six pádas are called 'Gáthá' in another work.
14. Further, in Páli, other kinds of metre, as well as those just spoken of, are comprehended under the general name of Gáthá.
15. I will now point out the characteristics of the metres generally used, the names of which are noted herein.
(Here ends) the first chapter giving the general definitions and symbols in prosody.
16. When (in the first half of a stanza) the sixth foot is an amphibrach (J), or a proceleusmatic (NL), and with no amphibrach (J) in the odd feet of the remaining six, together with a final long (G) ; and when in the second half, the sixth foot is a breve (L) with six other feet, together with a final long quantity (G), the metre is called Ariyá.
17. If the sixth foot of the first half be a proceleusmatic (NL), the pause must be on the first of the four instants ; if in the second half, the fifth foot be a proceleusmatic (NL), the pause falls on the last syllable of the fourth foot.
18. A metre possessing the aforesaid characteristics is comprehended under the general name of Ariyá.
19. If the initial padas of each half verse are restricted by the pause to three feet (i. e., twelve instants), the metre is Pathyá.
20. If the initial pádas exceed three feet, the metre is Vipulá.
21. That is Capalá, in both halves of which the second and fourth foot is an amphibrach ( $J$ ).
22. That is Mukhacapalá, the first half of which has the characteristics of a Capala, and the second half those of a Pathyá.
23. That is Jaghanacapalá, the first half of which has the characteristics of a Pathyá, and the second half those of a Capalá.
(Here ends the seetion on) the Ariyá class of metves.
24. That is Giti, in which both halves have the characteristics of the first half of the Ariyá, with the pause appropriately placed.
25. That is Upagiti, both halves of which have the characteristies of the second half of the Ariyá.
26. That is Uggiti, which exhibits the halves of an Ariya stanza in inverted order.
27. That is Ariyágiti, the halves of which correspond respectively with the first half of the Ariyá plus one long syllable at the end.
(Here ends the section on) the Giti class of metres.
28. That is Vetálíya, which has six instants in its odd quarters, and eight instants in the even, followed in each quarter by a cretic (R), and iambic (LG) ; in the even quarters six breves should not follow consecutively.
29. That is Opacchandasaka, which has a cretic ( R ), and a bacchic ( Y ), following the six instants in the odd, and the eight instants in the even quarters.
30. That is Ápátaliká, which has a dactyl (B), and a spondee (Gá) follollowing the six instants in the odd, and the eight in the even quarters.
31. That is Lakkhanantiká, in the quarters of which an amphibrach (J) constitutes the first four instants.
32. That is Udiccavutti, in the odd quarters of which an amphibrach (J) constitutes the first four instants.
33. That is Paccavutti, in the even quarters of which a long syllable and an amphibrach (GJ) form the first six instants.
34. That is Pavattaka, the odd quarters of which correspond with those of Udiccavutti, and the even with those of Paccavutti.
35. That is Aparantiká, the quarters of which correspond with the even quarters of Pavattaka.
36. That is Cáruhásiní, the quarters of which correspond with the odd quarters of Pavattaka.
(Here ends the section on) the Vetaliya class of metres.
37. That is Acaladhiti, the quarters of which consist of sisteen instants.
38. That is Mattásamaka, in the quarters of which the ninth instant is a short syllable, and the two last instants a long syllable.
39. That is Visiloka, which has in each quarter after the fourth instant, either an amphibrach ( $J$ ) or a proceleusmatic (NL).
40. That is Vánavásiká, which has in each quarter after the eighth instant, either an amphibrach ( $J$ ) or a proceleusmatic (NL).
41. That is Citrá, the fifth, eighth, and ninth instants of which are breves.
42. That is Upacitrá, which has a dactyl (B), and a spondee (Gá), after the eighth instant.
43. That is Pádákulaka, the quarters of which though consistent with the principle of the Mattásamaka class, contain syllables of mixed quantities.

## (Here ends the section on) the Mattásamaka class of metres.

44. Be it known, that in the Pathyá class of metres the difference between the number of the long quantities, and the instants, equals the number of the syllables; the difference between the number of the syllables and the instants, equals the number of the long quantities; half the difference between the number of the short quantities and the instants equals the number of the long quantities.
(Here ends) the second (chapter) describing the metres regulated by time.

## In the Gáyatti.

45. That is Tanumajjhá, the quarters of which consist of an antibacchic ( T ), and a bacchic ( Y ).

## In the Unhi.

46. That is Kumáralalitá, the quarters of which consist of an amphibrach $(J)$, an anapest ( S ), and a long syllable ( G ).

## In the Anut!thubham.

47. That is Citrapadá, the quarters of which consist of two dactyls (B), and a spondee (Gá).
48. That is Vijjummálá, the quarters of which consist of two molossi (M), and a spondee (Gá).
49. That is Mánavakaṃ, the quarters of which consist of a dactyl (B), an antibacchic (T), and an iambic (LG).
50. That is Samániká, the quarters of which consist of a cretic ( R ), an amphibrach (J), and a trochee (GL).
51. That is Pamániká, the quarters of which consist of an amphibrach $(J)$, a cretic (R), and an iambic (LG).

## In the Brahati.

52. That is Halamukhí, which has a cretic (R), a tribrach (N), and an anapæst (S).
53. That is Bhujagasusu, which has two tribrachs (N), an in molossus (M).

## In the Panti.

54. That is Suddhavirájitam, which has a molossus (M), an anapæst (S), an amphibrach ( $J$ ), and a long syllable (G).
55. That is Panavo, which has a molossus (M), a tribrach (N), a bacchic ( Y ), and a long syllable ( G ).
56. That is Rummavatí, which has a dactyl (B), a molossus (M), an anapøest (S), and a long syllable (G).
57. That is Mattá, which has a molossus (M), a dactyl (B), an anapæst (S), and a long syllable (G).
58. That is Campakamálá, which has a dactyl (B), a molossus (M), an anapoest ( S ), and a long syllable ( $G$ ).
59. That is Manoramá, which has a tribrach ( N ), a cretic ( R ), an amphibrach (J), and a long syllable (G).
60. That is Ubbhásakam, which has an antibacchic (T), a molossus (M), a cretic (R), and a short syllable (L).

## In the Tut thublam.

61. That is Upatthitá, which has an antibacchic (T), two amphibrachs ( $J$ ), and a spondee (Gá).
62. That is Indavajirí, which has two antibacchics (T), an amphibrach ( $J$ ), and a spondee (Gá).
63. That is Upavajirá, which has an amphibrach ( J ), an antibacchi $(\mathrm{T})$, an amphibrach ( $J$ ), and a spondee (Gá).
64. That is Upajáti, when the quarters of the two preceding metres are mixed together. Similarly it is said that the name Upajáti is applied to any metre that has mixed quarters.
65. That is Sumukhí, which has an anapæst (S), two amphibrachs (J), and an iambic (LG).
66. That is Dodhakam, which has three dactyls (B), and a spondee (Gá).
67. That is Sáliní, which has a molossus (M), two antibacchics (T), and a spondee (Gá), with the pause on the fourth syllable, and the seventh (following it).
68. That is Vátummissá, which has a molossus (M), a dactyl (B), an antibacchic ( T ), and a spondee (Gá), with the pause (on the fourth syllable, and the seventh following it).
69. That is Surasasirí, which has a dactyl (B), an antibacchic (T), a tribrach ( N ), and and a spondee (Gá).
70. That is Rathoddhatá, which has a cretic (R), an amphibrach (N), a cretic ( R ): and an iambic (LG).
71. That is Svágatá, which has a cretic (R), a tribrach (N), a dactyl (B), and a spondee (Gá).
72. That is Bhaddiká, which has two tribrachs (N), a cretic (R), and an iambic (LG).

## In the Jagati.

73. That is Vamsattha, which has an amphibrach ( $J$ ), an antibacchic ( T ), an amphibrach ( $J$ ), and a cretic (R).
74. That is Indavamsá, which has two antibacchics (T), an amphibrach $(J)$, and a cretic ( R ).
75. That is Totaka, which has four anapæsts (S).
76. That is Dutavilambita, which has a tribrach (N) two dactyls (B), and a cretic (R).
77. That is Puṭa, which has two tribrachs ( N ), a molossus ( M ), and a bacchic (Y), with a pause at the fourth, and eighth syllable (following it).
78. That is Kusumavicittá, which has a tribrach (N), and a bacchic (Y), and again a tribrach ( N ), and a bacchic ( Y ).
79. That is Bhujangappayátam, which has four bacchics (Y).
80. That is Piyamvadá, which has a tribrach ( N ), a dactyl ( B ), an amphibrach ( $J$ ), and a cretic ( R ).
81. That is Lalitá, which has an antibacchic (T), a dactyl (B), an amphibrach (J), and a cretic (R).
82. That is Pamitakkhará, which has an anapæst ( S ), an amphibrach (J), and two anapæsts (S).
83. That is Ujjalá, which has two tribrachs (N), a dactyl (B), and a cretic (R).
84. That is Vessadeví, which has two molossi (M), and two bacchics (Y), with the pause at the fifth syllable, and the seventh (following it).
85. That is Támarasam, which has a tribrach (N), two amphibrachs (J), and a bacchic ( Y ).
86. That is Kamalá, which has an anapæst ( S ), and bacchic ( Y ), followed by an anapæst ( S ), and bacchic ( Y ).

## In the Atijagati.

87. That is Pahásiní, which has a molossus (M), a tribrach (N), an amphibrach $(J)$, a cretic ( $R$ ), and a long syllable ( $G$ ), with the pause at the third syllable, and at the tenth (following it).
88. That is Rucirá, whicn has an amphibrach (J), a dactyl (B), an anapæst (S), an amphibrach (J), and a long syllable (G), with the pause at the fourth syllable, and ninth (following it).

## In the Salktarí.

89. That is Aparájitá, which has two tribrachs (N), a cretic (R), an anaprst (S), and an iambic (LG), with the pause at the seventh syllable, and the seventh (following it).
90. That is Paharaṇakaliká, which has two tribrachs ( N ), a dactyl (B), a tribrach ( N ), and an iambic (LG), with the pause at the seventh syllable, and the seventh (following it).
91. That is Vasantatilaká, which has an antibacchic ( T ), a dactyl (B), two amphibrachs (J), and a spondee (Gá).

## In the Atisakkari.

92. That is Sasikalá, which has four tribrachs (N), and an anapest (S).
93. When the pause falls on the eighth syllable, and the seventh (follow. ing it), the metre is called Manigunanikaro.
94. That is Máliní, which has two tribrachs (N), a molossus (M). and two bacchics ( Y ) with the pause on the eighth syllable, and the seventh (following it).
95. That is Pabhaddakam, which has a tribrach (N), an amphibrach (J) a dactyl (B), an amphibrach, (J) and a cretic (R).

## In the At!tio.

96. That is Vániní, which has a tribrach ( N ), an amphibrach ( J ). a dactyl (B), an amphibrach ( $J$ ) a cretic (R), and a long syllable (G).

## In the Atyatthi.

97. That is Sikhariṇí, which has a bacchic (Y), a molossus (M), a tribrach ( N ), an anapæst ( S ), a dactyl (B), an iambic ( LG ), with the pause at the sixth syllable, and eleventh (following it).
98. That is Hariní, which has a tribrach ( N ), an anapæst ( S ), a molossus (M), a cretic (R), an anapest (S), and an iambic (LG), with the pause at the sixth syllable, the fourth (following it), and at the seventh (following the last).
99. That is Mandakkantá, which has a molossus (M), a dactyl (B), a tribrach (N), two antibacchics (T), and a spondee (Gá), with the pause at the fourth syllable, the sixth (following it), and at the seventh (following the last).

## In the Dhuti.

100. That is Kusumitalatávellitá, which has a molossus (M), an antibacchic ( T ), a tribrach ( N ), and three bacchics ( Y ) with the pause at the fifth syllable, the sixth (following it), and the seventh (following the last).

## In the Atidhuti.

101. That is Meghavipphujitá, which has a bacchic (Y), a molossus (M), a tribrach ( N ), an anapæst ( S ), two cretics ( R ), and a long syllable (G), with the pause at the sixth syllable, the sixth (following it, and the seventh (following the last).
102. That is Saddúlavikkílití, which has a molossus (M), an anapæst (S), an amphibrach ( $J$ ), an anapæst ( S ), two antibacchics ( T ), and a long syllable (G), with a pause on the twelfth syllable, and the seventh (following it).

## In the Kati.

103. That is Vutta, which has ten trochees (GL).

## In the Pakati.

104. That is Saddhará which has a molossus (M), a cretic (R), a dactyl (B), a tribrach ( N ), and three bacchics ( Y ), with the pause at every seventh syllable.
105. That is Bhaddaka, which has a dactyl (B), a cretic (R), a tribrach $(\mathrm{N})$, a cretic ( R ), a tribrach ( N ), and a long syllable ( G ), with the pause on the tenth syllable, and on the twelfth (following it).
(Hore ends) the third ehapter (describing the) metres the quarters of which are similar.
106. That is Upacitta, which has in its odd quarters three anapæsts (S), and an iambic (LG) ; and in its even quarters, three dactyls (B), and a spondee (Gá).
107. That is Rutamajjhá, which has in the odd quarters three dactyls (B) and a spondee (Gá) ; and in the even quarters a tribrach ( N ), two amphibrachs ( J ), and a bacchic (Y).
108. That is Vegavatí, which has in the odd quarters three anapoests (S) and a long syllable (G) ; and in the even quarters three dactyls (B), and a spondee (Gá).
109. That is Bhaddavirajam, which has in the odd quarters an antibacchic (T), an amphibrach (J), a cretic (R), and a long syllable (G) ; and in the even quarters, a molossus (M), an anapœst (S), an amphibrach (J), and a spondee (Gá).
110. That is Ketumatí, which has in the odd quarters an anaprest (S), an amphibrach (J), a cretic (R), and a long syllable (G) ; and in the even quarters a dactyl (B), a cretic (R), a tribrach (N), and a spondee (Gá).
111. That is Akhyániká, which has in the odd quarters, two antibacchics $(\mathrm{T}$ ), an amphibrach ( J ), and a spondee (Gá) : and in the even quarters an amphibrach ( $J$ ), an antibacchic ( T ), an amphibrach ( $J$ ), and a spondee (Gá).
112. That is Viparítapubbá, which has in the odd quarters an amphibrach $(J)$, an antibacchic ( T ), an amphibrach ( $J$ ), and a spondee (Gá); and in the even quarters two antibacchics (T), an amphibrach (J), and a spondee (Gá).
113. That is Hariṇaplutá, which has in the odd quarters three anapœests (S), and an iambic (LG), and in the even quarters a tribrach (N), two dactyls (B), and a cretic ( R ).
114. That is A paravutta, which has in the odd quarters two tribrachs (N), a cretic ( R ), and an iambic (LG) ; and in the even quarters a tribrach ( N ), two amphibrachs ( J ), and a cretic ( R ).
115. That is Pubbitaggá, which has in the odd quarters two tribrachs $(\mathrm{N})$, a cretic ( R ), and a bacchic ( Y ) ; and in the even quarters a tribrach ( N ), two amphibrachs ( J ), a cretic ( R ), and a long syllable (G).
These two metres (respectively correspond with) the Vetáliya (and Opacchandasaka) metres.
116. That is Yavádikámatí, which has in the odd quarters six trochees (GL) ; and in the even quarters six iambics (LG), with a final long syllable (G).
(Here ends) the fourth chapter (describing) metres, the half lines of which are similar.
117. In that class of metres having eight syllables in each quarter, that is Vatta, which has no anapoest ( S ), nor tribrgch ( N ) after the first syllable ; and which has a bacchic ( Y ) after the fourth syllable.
118. That is Pathyávatta, which has in the even quarters, an amphibrach (J) following the fourth syllabla.
119. That is Viparítáratta, which has in the odd quarters, an amphibrach $(J)$ following the fourth syllable.
120. That is Capalívatta, which has in the odd quarters, a tribrach (N) following the fourth syllable.
121. That is the Vipulá of Pingala which has the seventh syllable short in the even quarters.
122. That is the Vipulá of Setava, which has the seventh syllable short in all the quarters.
123. That is Bha-Vipula, which has a dactyl (B) following the fourth syllable.
124. That is Ra-Vipulá, which has a cretic (R) following the fourth syllable.
125. That is Na-Vipulá, which has a tribrach (N) following the fourth syllable.
126. That is Ta-Vipulá, which has an antibacchic ( T ) following the fourth syllable.

## (So much for) the Vatta Find (of metres).

127. Any metre not noticed here, having quarters dissimilar in character, is comprehended under the generic term Gáthá.
(Here ends) the ffth ehapter deseribing metres the quarters of which are dissimilar.
128. In the table (representing the various long and short quantities of a metre), set down a quarter verse with quantities all long, below first long a breve, followed by same (as above), preceded by longs, and this is to be repeated until there are all shorts in the row.
129. If the row number of a variation in the table can be halved set down a breve, if being odd a unit is required sct down a long quantity.
130. From the first syllable write below each, numbers in progression from one, the sum of the figures beneath the short quantities, plus one, is the indicator.
131. Write units one over another in number equal to the syllables of a quarter verse plus one, let each column be one less in number than the one preceding, let there be -a rising from one and so on, the result is all longs and the like.
132. The number of the possible variations of a metre may be determined by the preceding method, or by the one preceding that.
133. Twice the number of variations in a given metre, minus one, gives the measurement in inches of the long, and the short quantities, and the intervals between them.
(Here ends) the sixth chapter entitled the six problem section of the Tuttodaya eomposed by Sangharaklilhita Thera.
134. To supply a public want, this treatise was prepared under the encouragement of my benevolent preceptor, the venerable Sila Thera, residing at Selantara, to whom I wish every success.
135. In return for this benefit, may $I$ in successive births be a benefactor to others.
136. May mankind attain the fulfilment of their desires as easily as I solved these six problems.

The Vuttodaya is ended.

## NOTES.

## Notes on Chapter I.

v. 1. nam' atthu for namo atthu ; odata for avadáta. "Ettha ca paṭhama gatháya parammukhakarạ̣ dasseti, sesahi gandhárambhappaládiketáni pákaṭí yeva." Kav.
v. 2. Pingalácaríyádíhi. "Setava bharamantavyádinaṇ̣" Chando. "ádisaddena c'ettha Jayadevasuráma Kálidasádayo Sañgạ̣hati" Vac. and Kav.
chandam yam. "chandaṃ niggahítágamena" Kav.
yat' icchitam for yato icchitam. "tesam icchitam abhimatam chandosattamapariññatạ̣ yato yasmá káraụá na sádheti, nasammadeti, tato tasmá káraṇá Mágadhabhásáya Vuttodayam árabbhisan ti sambandho" Chando. " yat' icchitan ti vadati, yad icchitan ti pi vattự vattati, yaṇ ti hi padassa yasmá ti attho pi sambhavato Mága dhabhásáyáti." Vac. Kav. gives the subtance of the above.
v. 3.' mattávannavibhedanam. Páli poetry is divided into poetry measured by the time occupied in the pronunciation (mattí), and poetry regulated by the number of syllables (vanna). The first of these is also called Júti.
lakkhyalaklchanasamyıttam. " lakkhalakkhaṇasamyuttaṃ." Kav. " lakkhiyate ti lakkhaṇam udáharaṇaṃ lakkhyate 'neneti lakkhaṇaṇ suttaṃ lakkhañ ca, lakkhaṇañ ca, lakkhalakkhaṇá lakkham eva vá lakkhanaṃ lakkhalakkhaṇaṇ tehi tena vá saṃyuttaṃ, lakkhalakkha-

ṇasamyuttaṃ suttam eva udáharaṇan ti vuttaṃ hoti." Chando. " lakkhitabban ti lakkhaṇaṃ tad eva lakkhyam udáharaṇaṃ, lakkhiyate anenáti lakkhaṇaṃ suttaṃ lakkhaṇañ ca tạ̣ lakkhaṇaṃ cáti lakkhyalakkhaṇaṃ" Vac.
v. 4. vuttoldayam, for vutta + udayaṃ.
lokiyacchandenissitam. A collection of prosody not vedic. "na vedikacchandanissitaṃ, duvidhaṃ chandaṃ, lokiya-vedika-chandabhedena, tattha lokiyannámachandaṃ nakkhattapaṭhádikaṃ; vedikannámachandạ̣ vijjábalenákáse gamanádikaṇ; tesu pajjabandhesvápajojaniyattádhippetaṃ veditabbam.". Kav. Chando. nearly the same.
árabbhissám’ ahan 'dáni. "árabbhissan ti Mágadhabhásáya upaññápayissámi" Chando. árabbhissámi aham idáni ti padacchedo" Vac. "árabbhisámi ahan ti padacchedo Vacanatthajotikáyam pan' árabbhissam ahan ti vuttaṇ, dvisu ca yathákkamaṃ árabbhissám' ahan tì ca páṭho daṭṭhabbo." Kav.
v. 5. atthlaganá. Eight feet. These are subjoined.

| Symbols. | Syllables. | Names (from the Greek). |
| :---: | :---: | :---: |
| Ma. | - - - | Molossus. |
| Ya. | $\cup$ - - | Bacchius. |
| Ra. | - | Creticus. |
| Sa. | $\cup \cup$ | Anapæstus. |
| Ta. | $--v$ | Antibacchic. |
| Ja. | $v-u$ | Amphibrachys. |
| Bha. | $\cup \cup$ | Dactylus. |
| Na. | $\cup \cup \cup$ | Tribrachys. |

A long syllable is garu (Ga), a short or breve lahu (La), and the initials GL are thus used.

| Ga Ga or Gá. | $-\quad$ |  |
| :--- | :--- | :--- |
| La La or Lá. | $\cup \cup$ | Spondæus. |
| Ga La. | $-\cup$ | Pyrrhichius. |
| La Ga. | $\cup-$ | Trochoeus. |
|  |  | Iambus. |

The Kavisára has some fanciful remarks in connection with the eight prosodial feet, the substance of which is given in the subjoined tables.

## Table 1.

The names of the guardian celestial beings, lunar mansions, \&c., connected with the eight prosodial feet.

| Feet. |  | Name of guardian celestial being. |  | Result. | How regarded. | Numbers and Names of Lunar mansions. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - - - | ma | bhumi. | earth. | wealth. | coveted. | 18 | Jetthá. |
| $\cup \cup \cup$ | na | sakka. | Indra. | long life. | coveted. | 2 | Bharaṇí. |
| -u | bha | canda. | moon. | friends. | coveted. | 5 | Magasiram. |
| $\checkmark$ | ya | ambha. | cloud. | piety. | coveted. | 24 | Satabhisayo. |
| $u-u$ | ja | ravi. | sun. | poverty. | not coveted. | 7 | Punabhasu. |
| - | sa | anila. | air. | degradation. | not coveted. | 15 | Sáti. |
| - U- | ra | anala. | fire | conflagration. | not coveted. | 3 | Kattiká. |
| -u | ta | ákása. | firmament. | failure. | not coveted. | 22 | Savaṇo. |

Table 2.
Classification of letters into castes.

Brahmaṇa.
Khattiya.
Vánijja.
Sudda.

| $a$ | $a$ | $k$ | $\dot{n}$ | $c$ | $\tilde{n}$ | $t$ | $n$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $i$ | $e$ | $t$ | $n$ | $p$ | $m$ | $y$ | $r$ |
| $u$ | $o$ | $l$ | $v$ |  |  |  |  |
|  |  | $s$ | $h$ | $l$ |  |  |  |

v. 6. gano idha catuk\%alo. The Ariyá class of metres is measured by feet denominated gana, which are equivalent to two long syllables or four breves (kala). "catukkalo caturo kalá mattá assáti va * * * ádittayạ̣ pana eko garu dve lahu, massa pana dve garu, nassa tu lahu catukkaṃ, tasmá catukkalo ti vutto." Vac.
v. 7. Samyogádi. Double consonants and the like. "saṃyogo náma dvinnaṃ vyañjanánaṃ ekatra thiti vuccati, saránantariká vyañjanánaṃ yogato pi yathá; "tattha, dinná, hutvá" tyádi: digho ca saro yathá ; "gáto, pitá, bhúto, deti, sotthi, ettha, oṭtho," ti : niggahítaparo yathá; " yaṃ taṃ" tyádi: *** catunnạ̣ pádánaṃ anto
avasánạ̣ ti pádanto saro ca yathá; " suriyuggamanaṃ paṭi" tyádi, ime caturo sará garu ti daṭthabbaṛ!." Vac. ${ }^{1}$
The Rípasiddlli has "kvaci saṃyogato pubbá ekárokára rassa iv, uccante yathá ; ettha, seyyo, otṭho, sotthi." B\%. 1. Chap. 1. Sutta 5., but in the earlier commentary on Kaccíyana's Grammar, the $N_{y}$ ása, no mention is made of this shortening of heavy vowels.
pádanto. This is the Burmese reading supported by the commentaries. Kavisára has "chandánurakkhattạ̣ padanto ti vuttaṃ pádanto ti pi páṭo," but so long as a couplet of the Vatta class of metres conforms to the principles of that class, it is immaterial what foot follows the fourth foot in the odd quarter.
vanko * * * uju. In Burmese, the mark for the short quantity in Páli prosody, is the number for one in that alphabet, and the mark for the long quantity is the number for two.
mattiko. Consisting of a breve (mattá). Equal in time to a snap of the finger, a flash of lightning, or the twinkling of an eye. " mattásaddo c'ettha accharásankkhátaṃ vá, vijjutásañkhátaṇ vá, akkhinimilasan̂khátaṃ vá, kálạ̣ vadati ti daṭ̣̣habbaṃ, tathá pi tena mattena ekamattá rassá, dvimattá díghá, aḍ̣̣hamattiká vyañjaná ti" Nyása B\%. 1. Sutta 4.
v. 8. pádádic. This rule refers to poetry measured by the time occupied in the pronunciation (mattávutti), which is divided by pauses into quarters (pádas). The illustration subjoined is in the Pathyá metre of the Ariyá class in which the pause is commonly restricted to the close of third foot.
sañnata kriyá. The shortening of the final $a$ in saññata before two consonants, the last of which is the liquid r , resembles the muta cum liquida rule, and the positio debilis of Latin prosodians; e. g. integri, (comp. Weber, Ind. Stud., Vol. viii). The stanza may be freely translated thus:-

From the pleasure of seeing and hearing Buddha, springs a passion never sate.
Who would not derive pleasure from a study so wondrous and sublime?
The Chando. points out that this couplet illustrates the figure of Rhetoric called Transition (atthantaranyása), the introduction of another sense into a subject, (such as a moral reflection). The author describes this figure in his Subodhálañkára (Easy Rhetoric). vv. 241 to 245 . It is twofold, viz. :-

[^3](a). general, (sabbavyápi-).
(b). partial, (visesatha-).
each kind being distinguished by the absence and presence of the emphatic particle hi. In this instance it is partial transition without the particle hi, (see Jour., As. Soc. Beng., Part I, No. 2, 1875 , pages 100 and 119.)
v. 9. Samuddosurasádínam. Samuddo, usu, rasa, and such like symbols represent numerals. Numerical symbols occur only in the second, third, and fifth chapters, and are here subjoined.
Number 4. veda. the (four) vedas vv. 67. 79.
yuga. the (four) ages, vv. 77. 98. 99.
samuddo. v. 9.
anṇava. vv. 39. 117. 123. 125. 126.
ambudhi. v. 75.
jaladhi. v. 120.
sindlur. vv. 118. 119.

Number 5. usu. the (five) arrows of Cupid, v. 9.
$a k k h i$. the eye, one of the (five) senses, v. 100.
Number 6. rusu. the (six) tastes, vv. 9. 97. 98. 101.
$u t u$. the (six) seasons, vv. 99. 100. 108.
Number 7. assa. vv. 67. 84. 99. 101. 102. (the (seven) horses haya. vv. 92. $93 . \quad\left\{\begin{array}{l}\text { of the sun. }\end{array}\right.$
muni. v. 104.
isi. $\quad$ vv. 94. 98. 100. $\left\{\begin{array}{l}\text { the (seven) sages. }\end{array}\right.$
sara. the (seven) musical notes, v. 89.
Number 8. vasu. a certain tribe of demigods, vv. 37. 41. 77. 93. bhoga. wealth, v. 94.
Number 9. gaha. a planet, v. 88.
Number 11. hara. one of the eleven Ruddas, v. 97.
Number 12. akle. The sun, one to each month, v. 102. 105. padaccheclo yati bbhave. Verse division is yati, the harmonic pause. The subject is treated of in the author's Subodhálaṇkíra (Easy Rhetoric) vv. 49. to 55. ${ }^{1}$ Pada here means a portion, not a quarter, of a verse.
v. 12. ekalchhar' árabbha. for ekakkharam árabbha.

Quarter verses vary from one up to twenty-six syllables. In this treatise they range from the Gáyatti of six syllables, to the Akati of twenty-two syllables. The five metres preceding the former, and the four following the latter omitted here are :-

[^4]| 1. | utta. | 1. | vikati. |
| :--- | :--- | :--- | :--- |
| 2. | atyutta. | 2. | sañkati. |
| 3. | maj.jhá. | 3. | atikati. |
| 4. | patiṭha. | 4. | ukkati. |
| 5. | supatiṭha. |  |  |

v. 13. parattha. Elsewhere. The work referred to, is the Chandovicitta. The metres are Bacchanalian chants, unlimited in length, commonsing with two tribrach ( N ), followed by cretic ( R ).
v. 15. t' ettha for te ettha.

## Notes on Chapter II.

v. 16. This chapter describes Pali metres regulated by time (mattávutti), called Játi. They are four in number Ariyá, Gíti, Vetálíya, and Mattísamaka; the second, however, is merely a subdivision of the first. The Ariyá class uses feet containing four instants or breves, or their equivalents; namely :-


Any one of these may be used in the even feet, viz., the second, fourth, and sixth. The amphibrach ( $J$ ) is inadmissible in the odd feet, viz ; first, third, fifth, and seventh. In each half verse, which consists of seven and a half feet, the sixth foot must be an amphibrach, or proceleusmatic, or a single breve. The metres are musical lyric verses. Mr. C. P. Brown in his treatise on Sanskrit Prosody, has pointed out a metre in Horace similar to the Ariyá, the Ionic a Minore "Miserarum est" \&c., (Od. iii. 12). The choruses in the Bacchæ of Euripides are principally in this metre. ${ }^{1}$ Subjoined is the scheme of the four Játi from verse 16 to 43, inclusive.
${ }^{1}$ Salford's Handbook of the Greek drama, p. 172.
I and II. Ariyá and Giti.


2 D

## III. Vetálíya.

|  | Odd quarters. |  |  | Even quarters. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vetálíya. | $\begin{gathered} u \backsim u v \\ -\quad-\quad \end{gathered}$ | $\left\lvert\, \begin{aligned} & -u \\ & -u \\ & \hline \end{aligned}\right.$ | $v_{-}$ | $\begin{aligned} & u=-u v \\ & u=-\quad u \end{aligned}$ | $-\cup=$ | $v=$ |
| Opacchandasaka |  | $\sim$ - | $v$ v-- |  | -u- | v-二 |
| A pátaliká. |  | u U | - - |  | -uv | - - |
|  | $u-u$ |  |  | $u-u$ |  |  |
| Lakkhanatiká. | $v$-u |  |  | $u$-u |  |  |
| Udiccavutti. | $u$ |  |  |  |  |  |
| Paccavutti. |  |  |  | -u-u |  |  |
| Pavattaka. | $u-u$ |  |  | -u-v |  |  |
| Parataka. | u-u |  |  | -u-u |  |  |
| Aparantiká. | -u二u |  |  | -u-u |  |  |
| Caruhásiní. | u-u |  |  | $\bar{u}=\bar{u}$ |  |  |

IV. Mattásamaka.

Acaladhiti.
Mattásamaka.

Visiloka.

Vánavásiká.

Citra.
Upacitra.

V. 44. If the first half of verse 17 be taken, the number of instants, of syllables, of long and short quantities is as follows:-

Instants................... 28
Syllables................... 20
Longs...................... 8
Shorts...................... 12
Then, $28-8=20$ the number of syllables.
$28-20 \ldots \ldots \ldots \ldots=8$
$28-12=16 \div 2=8$ \{ the number of longs.

## Notes on Chapter III.

This chapter describes those metres the quarters of which are similar, giving in each instance the characteristic of one quarter, which answers for the remaining three. The syllables in each quarter vary from six to twentytwo. The names of these metres are :-
VI. Gáyatti.
VII. Uṇhi.
VIII. Anuṭṭhubhaṃ́.
IX. Brahati.
X. Panti.
XI. Tuṭṭhubhaṃ

HII. Jagati.
XIII. Atijagati.
XIV. Sakkarí.
XV. Atisakkarí.
XVI. Aț̣̂bi.
XVII. Atyatṭhi.

XV1II. Dhuti.
XIX. Atidhuti.
XX. Kati.
XXI. Pakati.
XXII. A'kati.

The feet are denoted by the initial letter of their symbols in Roman capitals.
VI. Verses having six syllables in each line.

1. Tamumajjhá. - - $\checkmark$ - — TY.
ñánaṃ dasamaddhe
ñeyye tava satthá
vittháritamásí
saṃgetarabhágá,
VII. 1. Kumáralalitáa. $\cup-\cup \cup \cup — —$ JSG.
tayásadisakhettaṃ
nalokataramasmiṃ
padakkamanumatthaṃ
vipaceatiminampi.

VIII．1．Citrapadá．－$\smile-\cup \cup-— 2 B G a ́$.
satyakulapparacandaṃ
tittiyapannakavindaụ
saũcanapañcadinandaṃ
sádhunamesamanindaṇ．
2．Tijjummálá．－－—－—－－4Gáu．
játe buddhá vijjabbhute
loke dhammaṇ loke niccaṃ
mohaddhittạ̣ hitvá sattá
pattásantaṃ yogakkhemaṃ．
3．IKánavakam．$-\cup \cup-\cdots \cup-$ BTLG．
ánanaveríkamalạ̣
pañcayaketebhagavá
yánasakháhaṇsavaro
sùcayatevassupadam．
4．Sámanitá．－$-\cup ー \cup ー \cup 4 G L$ ．
ánanenatemuninda
tulyaminnasobhadáni
locanenakeraváni
tosatesamakkhatáya．
5．Pámániká．$\cup-\cup-\cup-\cup$－4LG．
saroruhámuninda te
sasámivaụsajattanaṃ
paṭiccasampatítiyá
itívadepadassitá．
IX．1．Halamukhi．－$-\cup \cup \cup \cup \cup-$ RNS．
vaṇ̣ayantitavakaruná
vitthatatisugatajane
nevamáravadhuvisaye
sádhanampi viditavati．
2．Bhujagasusu．$\checkmark \cup \cup \cup \cup \smile-— —$ 2NM．
vivaritamamatadváraṃ suvihatabhavasañcáraṃ kavivaranutasaccáraụ panamarakharasatthárạ̣．
X．1．Suddhavirájitam．- －$\cup \cup ー \cup ー \cup ー ~ M S J G . ~$
khittirútijinassapatthaṭí
ápátálasuramlayávadhi
sánandhekasuroragádike ánetvácaraṇáte aká．
2．Panavo．－－$\cup \cup \cup \cup-— —$ MNYG．
samssárambudhi taraṇe setu
hetuṃ nibbutisukhasantáne
ketuṃ sakyabhijanasañṇ̣̃e blọ náthaṃ visayatha viññáṇe．
3．Rummavatí．－$\cup \cup---\cup \cup-\quad$ BMSG．
sárasayonínaṃ bhavanevá devanaráhítạ̣ nilayevá nevatayá tulyomadhikoví vajjatimaddhá so munirájá．
4．Mattó．—－—－$\cup \cup \cup-$ MBSG．
máyádévísutamarahantạ̣ dhammassámiṃ varasalabhiññaṃ．
niccaṃ saddhá yutamanasáhaṃ
vandesuttham bahuguṇayuttaṃ．
5．Campakamálá．－$\cup-\cdots-\cup \cup-\quad$ BMSG． ásavapásámocayate yam， márajilokamsokasayává jálinijáláápálayate bho ñánaguṇaggo，káruṇikaggo．
This metre is the same as No．3．In Vrittaratnákara it is named Dipalcamálú，and has J instead of S for the third foot．

6．IIanoramá．$\cup \cup \cup-\cup-\cup-\cup-$ NRJG． yatipatiṃsataṃ kavissaro kimitimáhumerusádisaṃ naccalateva sohi kappase tuvamanárataṇ dukhaddhite．
7．Ubbhásakam．－－－ー－－ᄂ－৩ TMRL． khíne kalaṅko cando jinassa sampuṇ̣asamsuddhácchodakena tulyoṇavattenásísucíhi dosákarotiṃ vá tulyameti．
XI．1．Upatthitá．－－ソ ソ ー ৩－৩ ー－T2JGá suddhodaniyaṃ parapátubhútaṃ sámájikalápi sadá pamodí dúríkatatitthiyahamsayuttaṃ saddhammapayodavaraṃ namámi．
In the Vrittaratnákara the Upasthitá ending with a single long sylla－ ble is a ten－syllabled verse，and is included in the Pankti．There is，how－ ever，an Upasthitan in the Irishtubh，but it has not the characteristics of the Páli Upaṭtritú．

2．Indarajirá．$ー ー \cup ー ー \cup \cup ー \cup ー ー ~ 2 T J G a ́ . ~$ satthábhajíketumalaṃ phalaṃ va satthussa dattaṃ pavaraṃ púraụ va rájáva jetá samadantakatthạ̣ netáva satthá nayanocitatthaṃ．

3．upavajirá．$\cup-\cup ー ー \cup \cup — \cup — —$ JTJGá．
balena mettáyacitáya satthu vihárasámantavanábhiváso migápiválásahitámramañña ṃ cariṃsu yogíva samáhitattá．
V．64．When the quarter verses of Nos． 2 and 3 are mixed to－ gether，the metre is called Upajáti；of which according to Chando，there are fourteen varieties，thus，if $i$ stands for Indavajivá，and $u$ for Upavajirá，we have i u u u，uiii， iiui，uuiu，iuiu，uiuu，iii u，u uni，iiuu，un－ ii，uiui，iuiu，iuui，uiiu．．
4．Sumukhi．$\checkmark \cup ー \cup ー \smile \cup ー \smile \cup-$ S2JLG．
ariyehi sílasamádhi ṭhiti succimattikádiguṇehi jino vimalehi bhúsayatevisaye sasamipupágata devanare．
In the Trittaratnácara，Sumulchi has a $N$ instead of a $S$ for the first foot．

> 5. Dodhakam. - ソ ソ - ソ ソ ー ソ ー - 3BGá.
> sajjanamánasakañjuvikásạ̣
> dujjanatitthiyasaṃkapatápaṃ
> lokanabhuggatamárajisúram
> mohatimísahatạ̣ pa!̣amámi.

6．Sálini．－－－－- －- －M2TGá．
pádambhojaṃ ye bhajante janáte kárunnantesimavajjam janesu vindante tenáthatasságatena vaṇṇaṃ ková vaṇṇa ye van̄ṇavádi．
7．Vátummissá．－— —－\｜$\cup \cup-$ — - －II MBTGá．
laddhámaddhá｜｜tavamaddhekkhaṇampi
sattásattá｜l bhupadáyanti niccam
kiṃ vá cittạ̣｜｜citasatthopakare
sabbaññusmiṃ｜｜tadanúnappavatti．
The Vrittaratnákára has no cæsura．
8．Surasasirí－$\cup \cup-\_\cup \cup \cup \cup-\quad$ BTNGá．
vádivarápissunipunadhíyo．
tádiguṇaṇtaṃ sugatamupecce．
pañcamukhádhiṭhitavanagantyá．
vañcitadanticchavimadhikañcum．
The Vrittaratnákara has the pause after the fifth syllable，and the sixth following it．

9．Rathoddhatd́．－$-\cup \cup \cup — \cup — \cup ー R N R L G$ ．
yassa pádakiranáruṇígataṇ．
dárukhandam api pátịháriyaṃ．
dassayitvasumanañcaneaká．
tassa attham iha ko silághaye．
10．Svágatá．$\cup \cup ー \cup \cup \cup — \cup \smile ー —$ RNBGá．
nijjitáni kamaláni mukhena．
lajjitá vacanavásamitáte．
nátathá padarasanti nimittaṃ． majjittánisarasisv iti maññe．
11．$\cdot$ Bhaddiká．$\cup \cup \cup \cup \cup \smile-\cup — \cup-2 N R L G$.
magadhavisayabhávibhásayá．
vadatitayimahovadanti te．
vividhavisayavásijantavo．
sugatasakasakáyabhásayá．
XII．1．Vamsattlia．$\cup-\cup ー ー \cup \cup ー \cup ー \cup-J T J R$.
visálabhogesumasaṃgataṃ gataṃ．
visudhisantaṃ bhavasaṃvaraṃ varaṃ．
paropakárádhikatapparaṃ paraụ．
bhajantunáthaṃ vidhitá hitaṇ hitaṃ．
2．Indavamsá．－－$--\cup \cup-\cup-\cup-2 T J R$ ． tuyhánasattádhigamá mahámune．
lílávilásekarasá manohara．
kantápi passanti sahásabhásiyo． sattá yathá jañgamaputirañcayaṃ．
3．Totaka．$\cup \cup-\cup \cup-\cup \cup-\cup \cup-4$ S．
sucirávahitaṃ vahitaṃ sahite．
niratehidhayo sugato padaví．
sigavaṃ ujarájapathạ̣ kathavá．
sujaná tamaraṇ madhiro hatavo．
4．Dutavilambita．$\checkmark \cup \cup-\cup \cup-\cup \cup — \cup-N 2 B R$ ．
subhagatá bhagatá pavinonadí．
surasabhárasabhávita bharati．
adhigatádhigatátisivappadaụ．
jinasutánasutábhavasaṃ kaṭạ̣．
5．Puta．$\checkmark \cup \cup \cup\|\cup \smile ー — — \cup — —\| 2 N M Y$ ．
sugatati II vidhakalyáṇehi yuttá．
vacanaja｜｜ladamáláte janánam．
nakumati｜｜malinatthaṇ yevadhotá．
sugatasu｜｜rataruppesapaputṭhá．
6．Kusumavicittá．$\cup \cup \cup \cup — — \cup \cup \cup \cup — —$ NYNY．
ratipatijammam，jitamunidhammaṃ．
sivapathasálaṃ，munijanamálaụ．
tibhavanaketum，subhagruṇahetum．
bhajathajanábho，tamihusulábho．
7．Bhujaingappayáta．$\cup ー-\cup ー ー \cup ー ー \cup — — 4 Y$ ．
munindo virágáya vindassa kando．
dinandadrayánanda sandosasando．
nabhindampinibbindakatthenanindaṃ
virájeti rájinda kundogha cando．
8．Piyamoadá．$\cup \cup \cup-\cup \cup \cup — \cup — \cup —$ NBJR．
vimalacáruciraṇárunappabhá．
valitapádanakharamsisantati．
kalilavindumalatámayodadhi． cchavisamuppahati te tathágrataṃ．
9．Lalitá．－－$-\cup \cup \cup — \cup-\cup —$ TBJR．
taṇhá kilesamaladhovanárahe．
sattáparaggapurarodhanásahe
dhammepasannamatayohitávaso．
dhammanusattamihasabbalamkathí．

lapitaṃ tavámata padam savaná
caraṇam munindanakarotidhayo
nahitena sádisanihina jano
guṇabhájanatthamathavávigato．
11．Ujjatá．$\cup \cup \cup \cup \cup \cup ー \cup \cup ー \cup ー ~ 2 N B R . ~$
sapavaravisayosusamiddhiko
savigatakhilamítisukhemavá
sasujanajanasevaniyojati
dasabalagaditaṃ lapatevate．
12．Vessadeví．－－－－\｜－$\quad$－－- －\｜
2 M 2 Y.
samsare saraṃ｜｜mánusattaṃtahimpi
vekallábhávo｜｜sádhu sabbindriyánaṃ
kolaññaṃ tasmiṃ｜｜tassasoceyyabhávo
tasmiṃ sussusá｜｜dhammarájassa dhammaṃ．
13．Támarasam．$\cup \cup \cup \cup — \cup \cup — \cup \cup — —$ N2JY．
yadi sugatodita sárapadípo
bhuvinasiyániyaráyanasodhạ̣
sugatipathávaraṇápagamạ̀ vá
nabhavatiko vadatissivanámaṃ．
14．Kamalá．$\cup \cup — \cup — — \cup \cup — \cup — —$ SYSY．
avakárakánampi narádhamánaṃ
hitakárako yam sadayo munindo
upalopasaṃ ghaṭtitamo sadháni na haranti kiṃ vá balavạ̣ pi vyádhi．

XIII．1．Pahásiní．－－$\|\cup \cup \cup \cup-\cup — \cup — —\|$ MNJRG．
satthárá｜｜bhavasalilákarámapárá． lokoyaṃ｜｜ariyapatattharenasáraṃ． nibbáná｜｜mataparatírakhemabhúmí． sannito｜｜dipuladayáyacoditena．
2．Rucirá．$\checkmark-\cup-\|\cup \cup \cup \cup-\cup ー \cup-\|$ JBSJG．
manuṇ̣itá Il yatipatinákharásaná．
yadátute｜｜kusumavitánatạ̣ gaṇá．
tadávadhí｜｜kusumasarábhidháritaṃ．
gatotime II matinamucemahámune．
XIV．1．Aparájitá．$\cup \cup \cup \cup \cup \cup-\|\cup ー \cup \smile ー \cup-\|$ 2NRSLG．
janananidhanatá｜｜dyane kavisádhinaṃ．
sugatatavavaco｜｜bahuvasurosadhaṃ．
kamutatavavilá｜l savásamanorahaṃ．
vitanutanusiri｜｜bbilocanamussavam．
2．Paharanalealitá．$\cup \cup \cup \cup \cup \cup-\| \cup \cup \cup \cup \cup$ $\checkmark-\|$ 2NBNLG．
sturapurakamalá｜｜sananilayamatí．
varapatikamalá｜｜karasasisavibhú．
tatharivakamalá｜｜nicasitapasite．
sacaraṇakamalá II vahatiyatipatí．
3．Vasantatilaká．ーーレー TBIJGá．
lávaṇyaváriparipúrivalitharañgạ̣
nettambujálakamalissitapeṇamalyá．
kantápakáramadanásanavạ̣ kaghatte
sattambuje muni vimocayidosanáya．
XV．1．Sasitkalá．$\cup \cup \cup \cup \cup \cup \cup \cup \cup \cup \cup \cup \cup \cup —$
parahitamabhirata dasabalam atulo piyatamaruciyanijatanujadayatá
amitavaradhanasipitasubhaụayane
guụasadanapatidhadivimalamatimá．
2．Manigunanikaro．$\cup \cup \cup \cup \cup \cup \cup \cup \| \cup \cup \cup \cup$ $\cup \cup-\| 4 \mathrm{NS}$ ．
vidhuragunanilaya｜｜tiracaturamune tavalapanapasuta｜｜lapitamadurasaṃ pacuratarabhujaga｜｜manujasurapitá mahamadhupasamiti｜｜pivatimavirataṇ．

3．Maliní．$\cup \cup \cup \cup \cup \cup-\cdots-\|-\cup-\cup-$ 2NM2Y．
kapilakanacaránaṇ｜｜lokikácelakánaṃ sivajayiminivedan｜｜tádinaṃ vádavedi tavacaraṇanisedhí｜｜cápimásajjajáta anadhivarapabháte｜｜tetamosaṃhatíva．
4．Pabhaddałam．$\smile \cup \cup \cup ー \cup ー \cup \cup \cup ー \cup ー \cup ー ~$ NJBJR．
phalamakhilaṃ tayávijitamujjhiyávudhe
disidisibhopaláyinamacissatenataṇ
suravanitánamásihasanáyidánipi
dasabalateparakkamamahosupatthataṃ．
XVI．1．Vániní．$\smile \cup \cup \cup ー \cup ー \cup \cup \cup ー \cup ー \cup — —$
NJBJRG．
bhuvikavinokálákaladipáradassinova bhujagapatimatisamatináganáyakává nahitarituṃ bahusugatasagguṇamburásí bahupamituṃ tatháhisúrapañcusassaková．
XYII．1．Sikharini．$\cup-ー — — — \| \cup \cup \cup \cup \cup — — \cup \cup$ $\checkmark-\|$ YMNSBLG． natam cittaṃ yante｜｜samitasakalaklesaphaliná vajote jasatte｜｜bhavakasiritomocanamayo vanekekiṃsitvaṃ｜｜savadhapasutaṃyádhapadhanam jinate pacceke II samabhinivisarinádhapavaro．
2．Hariní．$\cup \cup \cup \cup \cup-\|-— — —\| \cup — \cup \cup$ －- \｜NSMRSLG． virataramano｜｜pyáyaṃ nátho｜｜pavedhatinibbharạ̣ vyasanisudayá｜｜luttániccạ̣｜｜samekkhiyakátare tam idam ucitaṇ｜｜tesaṃloke｜｜nissákararamsiná bhavatisasikan｜｜taṃ yevambuṃ｜｜nacetaravophalá．
3．Mandakたantá．－－－$\|\cup \cup \cup \cup \cup-\|-\cup$ －－v－\｜MBN2TGá．
ullocittam｜｜jaladavisará｜｜yantivátácayassa niyyánasmiṃ｜｜surabhikusume｜｜santarantepurattá ubbhijjitvá｜｜vanisarasija｜｜sampaṭicchantipáde soyaṇ natho｜｜vipulapatimá｜｜pátunopevadevá．
XVIII．1．Kusumitalatávellitá．————— \｜$\cup \cup \cup \cup \cup ー \|$ ー－ー－－－\｜MTN3Y． sandhạtthemeyaṃ｜｜kisalayadalaṃ｜｜tedhirattábhimukkh máliññaṃ cando｜｜tavatanupabha｜｜sammukhedevadeva gopácutttánaṃ｜｜vipulamatiyá｜｜sammukhetepayodhi sádisaṃ kiṃ vá｜｜bhavatibhuvane｜｜tena tvaṃ vatulyo．

XIX．1．Meghavipphujjitá．ソ—————\｜\｜
－- —－－\｜YMNS2RG．
sarojemadísí｜｜sasicakumude｜｜tuñcasabbaṃ tilokaṃ pabodhetárobho｜｜jinanamadiká｜｜kintubhedopanesam． punosamghocittam｜｜nalinakumuda｜｜yantisesehibuddha． tayábuddholoká｜｜napunamakulat｜｜thaṇ kadáci piyáti．
2．Saddúlavikkílití．－－－৩ $-\cup-\cup \cup \cup — \|$ ー－－－－－॥ MSJS2TG． máyánekatiluddharakkhasivasaṇ II yátemanásekadá． yosamyattikaváṇijedasasata II ddhaddhedayitvánabhá． vahopissalilákaraṃsamabhilạ̣ II ghitvánakhemávini． sammápesikimbhutasamadhuná II sabbaññutatthedayá．
XX．1．Tutta．－$\cup \cup-\cup-\cup ー \smile-\cup-\cup — \cup$ －$-\cup$ 10GL． súmidevatápasáritesviváyatesupánisampuṭesu． yopadepadesamuggatesuphullamaṇ kajesusobhaṇesu． sañcaraụ virájirájahaṃsalilayá pajáhitáyatassa． várijásanípadevarájasekharikatạ̣ padạ̣ bhajámi．
XXI．1．Saddhará．－－－$\cup-$－\｜$\checkmark \cup \cup \cup \cup \cup — \|$ ー $-ー \cup — — \|$ MRBN3Y． ávelávelajátá｜｜sitasitamanujo｜｜tarohiccabhedá kintiniggammadehá｜｜tibhuvanakuharaṃ｜｜tetilokekanáthá sambhusentovanáná｜｜vidhiratanamayá｜｜nekamáláhisammá sandhávatyábhavaggaṃ｜｜niravadhikarụ̣á｜｜ñạ̣ataṃ sucayantá
XXII．1．Bhaddaka．

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- \(\cup-\cup-\cup \cup \cup-\|\)
\(\checkmark ー \cup \cup \cup-\cup-\cup \cup \cup-\|\) BRNRNRNG.
sakyamunevacotavasudhá
gadaṃ harati lobhadosapabhuti II
nevajahátidhammapakatí |
nasammutimatovisáradagaụá ||
kammaphalañca kammam ihabhú |
navedagajanonakarakamití II
súcayatetadacchariyatam |
vidanti sanarámarásivapadaṇ. I|
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## Notes on Chapter 4.

This chapter describes eleven metres the half lines of which are similar in construction．

The characteristics of each half line are subjoined. Nos. 9 and 10, respectively correspond with the Vetálíya (v. 28) and the Opacchandasała (v. 29.)


## Notes on Chapter 5.

This chapter describes the varieties of the Vatta, or heroic, measure, analogous to the Sanskrit sloka. The term sloka is not used in the treatise, nor, according to Weber, does Pingala nor Kedára adopt it. Ind. Stucl., Vol. VIII, pp. 114 and 332.

In this class of metres each half line contains sixteen syllables, and two half lines form a couplet. The halves are independent, any one of one metre may be followed by that of another. Each quarter (or páda) has eight syllables, the first and third are called odd quarters, the second and fourth even quarters. In each quarter the first and last syllables are free, the others (which in the subjoined table are formed into seats) are subject to rule, namely:-
(a.) In the first seat in either quarter any foot is admissible, except the anapæst ( S ), and the tribrach ( N ).
(b.) In the second seat in the odd quarters any foot is admissible.
(c.) In the second seat in the even quarters, no foot is admissible, except the amphibrach $(J)$ or bacchic (Y).


## Notes on Chapter 6.

This chapter enters into the solution of the six problems, (cha-ppaccaya) which are as follows :-

1. To distribute in the form of a table the different quantities in the possible variations of a metre.
2. To determine the structure of a variation, the row number of which is known.
3. To determine the row number of a variation, the structure of which is known.
4. To determine the number of those variations which respectively contain no long quantities, or one long, or two long, and so on.
5. To determine the number of the possible variations of a metre.
6. To determine the space requisite for writing down the possible variations of a metre.
v. 123. te ca-m-ime; And these; (three alternations (vikappá) being understood). This is the reading of the Burmese MISS. "te ca ime tayo vidhiyo yáva sabbalahu go pádo, táva kattabbo." Vac. " puna lahuto pubbe garu te ca ime tayo vidhiyo sabbalá sabbalahupádá katabham; athavá $\times \times$ tato lahuto, garu pubbe pubbaṭháne yeva pare panakkhará upari sadiś́ yeváty attho, evam ime akikhará kattabbá, yáva sabbaĺ́ sabbalahupádassa avasánanti, imasmim ca vikappe " garutevamime" ti paṭho "garu iti evam ime "ti chedo" Kav.
This verse describes the mode of arranging in a table, the distribution of the long and short quantities in the possible variations of a metre.

According to the rule all long quantities are set down in the first row, in cach succeeding row, a short quantity must first be placed beneath the first long of the row above ; to the right of such short quantity, must be written quantities similar to those in the row above ; to the left of such short quantity, as many long quantities as may be required to fill up the row ; and so on until a row of all short quantities is formed. Thus a metre, whose quarter verse consists of one foot, has two variations, a quarter with two, four variations, and a quarter with three fect, eight variations, and so on, the variations increasing in geometrical proportion, as the quarter verse increases in length.

|  | The number of variations in a metre having three syllables in a each quarter verse. |  |  |
| :---: | :---: | :---: | :---: |
| 1 | - | - | - |
| 2 | $\checkmark$ | - | - |
| 3 | - | $\checkmark$ | - |
| 4 | $\checkmark$ | $\checkmark$ | - |
| 5 | - | - | $v$ |
| 6 | $\checkmark$ | - | $\cup$ |
| 7 | - | $\checkmark$ | $\cup$ |
| 8 | $\cup$ | $\checkmark$ | $\cup$ |

v. 129. This rulc determines the structure of a variation in the table, the row number of which is known. The Gáyatti has quarters of six syllables, let the structure of the tenth row be determined.
as 10 can be halved set down a breve $\qquad$
as 5 without an additional unit cannot be halved set down a long,
as 3 an odd number requires a unit set down a long,
as 2 can be halved set down a breve. $\qquad$
as 1 being an odd number requires a unit set down a long, $\}$
as 1 again requires a unit set down a long,
The structure, then, of the 10th row of the Gáyatti is $\cup-\ldots \cup-$ v. 130. This rule is the converse of the preceding. Given the structure, to determine the row number. Let $-\sim-\cup$ - - be taken as the structure of a variation in a metre having quarters of six syllables. Commencing at the first syllable place under each syllable, numbers in geometrical progression from one, thus :
$\begin{array}{llllll}\cup & 2 & 4 & 8 & 16 & 32\end{array}$; the sum of the numbers beneath the short syllables plus one, gives the row number, e. g.: $1+8+1=10$; and we have just seen that this structure corresponds with the 10th variation of the Gáyatti.
v. 131. This rule determines the number of variations containing no long quantity, or one long, or two longs, or all longs. Units are to be placed, vertically one over the other, in succession equal to the number of syllables the metre has in each quarter plus one ; thus the Gáyatti having six syllables, seven units are set down vertically one over the other ; each succeeding column must be one less in number than the one preceding it ; in each of the columns succeeding the first (which all commonce with a unit) there is a rising, and in this fashion : after writing the first unit of cach column, each following number must be the sum of the number immediately to its left in the preceding column plus all those below that said number ; e.g., in the third column, 3 follows the unit being the sum of $2+1$ of the preceding column, then follows 6 being the sum of $3+2+1$, and so on, as in the subjoined table.
1 one row with all long quantities.
16 six rows with five longs.
1515 fifteen rows with four longs.
141020 twenty rows with three longs.
1361015 fifteen rows with two longs.
123456 six rows with one long.
1111111 one row with no long quantity.
v. 132. vemam for vá imaṃ.

The number of the possible variations of a metre may be determined either, (a) by adding together the top numbers of the columns as shewn in the preceding rule, or ( $b$ ) by adding together the numbers placed beneath the short quantities plus one, according to the rule in v. 130, e. g:
(a.) $1+6+15+20+15+6+1 \ldots \ldots \ldots \ldots \ldots \ldots \ldots=64$
(b.) $\cup \cup \cup \cup \cup \cup 1+2+4+8+16+32+1=64$

$$
\begin{array}{llllll}
1 & 2 & 4 & 8 & 16 & 32
\end{array}
$$

Thus 64 is the number of the possible variations of the Gáyatti metre of six syllables in each quarter.
v. 133. This rule lays down the space in inches, that is required for writing down the quantities in the several variations. The inches required must be double the number of variations minus one, thus the Gáyatti having 64 variations would require for each quarter verse $64+64=128-1$, or 127 inches.
v. 134. Sila Thero. Moggallána. The author of this treatise was a disciple of Sáriputta, otherwise called Síla Thera.
Rhyming metres find no place in this work; reference, however, is made to a kind of word-repetition termed yamata in the author's Subodhálankára (Easy Rhetoric), vv. 26 to 52.* This kind of word-rhyming or word-matching is twofold-
(a) isolate, (vyapeta).
(b) corporate (avyapeta).
and has many varied combinations, either kind being found separately, or in conjunction, anywhere in the stanza.

Besides the instances given in the Subodhálankára, vv. 28-31, the Tiká of that treatise gives six stanzas wherein the subjoined words in italics, occur in the same place in each line of their respective stanzas. For brevity's sake, one line only of each stanza is here given.

1. manam manam satthu dadeyya ceyya.
2. yato na tenc te pito siyum na tenca te subhá.
3. veneyyenettha guṇa sajjanam janam.
4. sabháya sabhati na ce kathaṃ na.
5. nabhásura te pi surá vibhúsitá.
6. jinánattiyam ye hitásá sitáeá.
[^5]
## Contributions to the explanation of the Jyotisha-Vedánga.-By

 G. Thibaut, Ph. Dr.The small metrical treatise known by the name of the Jyotisha-vedán. ga has attracted the attention of scholars since the first time when Sanskrit literature began to be studied by Europeans. Especially it was the celebrated verses containing a statement regarding the place of the wintersolstice at some ancient, although as it finally has turned out, rather indefinite period, which gave rise to a good deal of comment and speculation. They have been discussed in all their bearings by Sir W. Jones, Colebrooke, Bentley, Davis in the beginning of this century, and were submitted at a more recent period to renewed investigation; it may suffice to refer to Prof. A. Weber's papers on the nakshatras (especially the second one, p. 355), Prof. M. Müller's preface to the fourth volume of his large edition of the Rik-samhitá, which moreover contains some calculations by Archbishop Pratt and Prof. W. F. Donkin, and the important paper by Prof. Whitney in the first volume (new series) of the Journal of the Royal Asiatic Society of Great Britain, the substance of which is reproduced in the twelfth essay, second series, of his "Oriental and Linguistic Studies." These verses about the places of the winter-solstice, bearing as they do on the question of the chronology of Vedic literature, certainly are the most important of the whole treatise, and may justly claim a much larger amount of interest than we can accord to the remainder of the Jyotisha; nevertheless the Jyotisha being avowedly the oldest Indian work referring to astronomy which has come down to our time, it was highly desirable that we should be enabled, by a publication of the entire work, to judge of its value. This was at last rendered possible by the paper of Prof. A. Weber "Ueber den Vedakalender, Namens Jyotisham" published in the transactions of the Royal Academy of Sciences at Berlin, 1862 ; which contains an edition of the complete text based on the comparison of a great number of manuscripts, the gloss on the text by Somákara, a translation of the text which is founded on Somákara's explanations as far as these owing to the exceptionally bad state of the manuscripts could be made out, and a very instructive commentary by Prof. Weber himself, in which there is collected a large amount of material from divers sources tending to the elucidation of the obscure verses of the Jyotisha. But in spite of the important step in advance made in Prof. Weber's edition, there remains, as he has himself acknowledged, much to be done before we can claim fully to understand the Jyotisha. The first obstacle in our way is of course the style of the treatise itself with its enigmatical shortness of expression, its strange archaic forms and its utter want of connexion between the single verses. The second ob-
stacle is, or I should rather be inclined to say, was the extraordinary corruption of all the manuscripts containing Somákara's commentary, a corruption extending so far that in more than one passage it is hardly possible to make out even the general drift of the argument (I myself have been able to procure three MSS. in addition to those used by Prof. Weber, but they belong to the same families as his and no additional advantage is to be derived from them). The reason for which I prefer to call this second obstacle a past one lies in my conviction of Somákara's commentary being not only of slight value, but, the explanations of a few verses excepted, positively harmful as misleading the student of the Jyotisha and preventing him from having recourse to the only legitimate method of arriving at its true meaning. In fact I consider Somákara to have totally misunderstood by far the greater part of the few rules of which the Jyotisha consists. Professor Weber already, in his edition of the Jyotisha, has complained in many places of the want of connexion by which Somákara's method of interpretation is characterized and of the strangeness of the results at which we frequently arrive when accepting him for our guide ; but I think we may safely go a step farther and, instead of regretting the want of ability on our side to construe Somákara's explanations into a oonsistent whole, reject his explanations just for the very reason that we are unable to elicit a satisfactory sense from them. It appears to me that Somákara has grasped the meaning of his text only where it either was impossible to misunderstand it (so f. e. in the introductory verses) or where corresponding passages of the Gárgí Samhitá assisted him in making out the right meaning (so f. e. v. 9, 10). In these latter cases his gloss certainly has some value, since those parts of Garga's work from which he quotes appear to be lost, or have at any rate not been recovered up to the present time; but with regard to the whole remainder of the Jyotisha-and this remainder forms by far the greater part of the work-his commentary must be declared to be worse than useless. The chief objection to Somákara's manner of commenting-an objection which by itself would be sufficient to condemn it-is the complete absence of anything in the way of " upapatti" or proof. While every good commentary on an Indian astronomical work, after having explained one of the rules given in the text proceeds to justify it by showing its agreement with the general principles of the system, Somákara never makes such an attempt ; he simply gives a scanty explanation of the words of the text and then leaves the reader to his own resources. And the explanations which he gives are for the greater part of a very strange nature indeed. Later on, the true explanation of a fev passages of the Jyotisha will be given, when Somákara's mistakes with reference to these will clearly appear from a mere comparison ; I now direct the reader's attention to some verses the right sense of which

I am indeed unable to point out, but where nevertheless Somákara's want of understanding is patent. At first however I reprint the text of the Jyotisha, only for convenience's sake, since frequent references to it will be made in the following pages, not with the intention to give it in a purer form than that known up to the present time. A few corrections of the traditional text will be given later on ; the necessary critical apparatus for the restitution of those verses which are manifestly corrupt, and for which I am unable to propose emendations, will be found in Prof. Weber's edition. I consider it superfluous to reprint here the different readings of the MSS. ; the verses of the Jyotisha are for the greater part of such a nature that the restitution of the single words of the original text can only be accomplished after we have found out by some other means the probable sense of the whole verse. I follow the arrangement of Prof. Weber's edition giving at first those verses which are found in the recension connected with the Yajurveda and then adding these which belong to the Rik recension only.

## पच्चसंवत्सर्मयं युगाश्यच्चं प्रजापर्तन्-

दिनर्बयनमासा क्रं प्रष्तम्य किरसा शुचिः ॥ २॥
ज्ये।तिषामयनं पुएं प्रवन्य्याग्यनुपर्वशः।
ब्राह्मएलन्द्राएां संमतं यज्ञकालार्थरिड्ये ॥ २॥
वेटा हि यज्ञार्थमभिप्रत्ताः कालानपूर्या विंहतास यज्ञा :।
नस्माटिद्टं कालविज़ानशास्लं बो ज्या़ितषं वेंद् स वे द् यज्ञम.॥ ३॥
यथा किखा मयूराएंं नागानां मएयेा यथा।

माघशुल्लप्रपन्नस्य पेषषकृष्कासमाधिनः।
यगस्य पच्चवर्षस्य कालज्ञानं प्रचच्चते ॥ y.\|
खराक्रमेते सोगार्कौं यदा साकं सवासवे।।
स्याच्तदादि धुगं माघस्तपः शुलोऽयनं ह्युदक्॥ ॥ ॥
प्रपद्येते श्रविष्ठादौ। स्तर्याचन्द्रमसावुद्य्।

घर्मटदिरपां प्रस्थ: चपाह्वास उद्ग्गतौ।

प्रथमं सपं चाऊरयनाधं नयंय्यश्।
चतुण्थं द्गमं चैव द्विय्युग्माद्यं बङल्डेप्युतै। ॥ \& ॥

धाता कस्यायनाय्यः स्युर्षपपच्चमस्वृतुः॥ ३०॥
एकान्तरे sfिन मामें च पर्वान्क्रालाद्वरुत्तरः।
बर्घयाः पच्चपर्वालां मृदू पच्चदग्राप्रमेग॥११॥
टुछेयं पर्व चेत्पादे पादस्त्रिंश्रुत्तु मैकिका।

भागात्म नापद्टज्याड शान्निर्दि शे द्धिकों यदि ॥१२॥ निरेके द्वाद शाभ्यसं द्वगुएं चाडयसंयुतम्।


 भांशाः स्युरसकाः कार्याः पचा द्वादशकान्रताः। एकाद्प्गुएये।नः शुलोंघं चेन्द्वा यदि ॥ १५॥ बवके रुजनेतsंश: स्यादूनः सप्रगु लो भवेत्। घावापस्वयुजे ह्दे स्यात्पोलस्येऽड्तंगतेपपरम्॥ १ई ॥ जावाद्यंशः: समं विद्यात्पूवार्धि पर्वस्द्नतराः।

जो दा गः खे श्वे ही रो षा चिन् सू प ए्यः सु मा धा एः।

कार्या भंश्राडयकाः स्वाने कला एकान्नविंशfतः।
जनस्थान द्विसमत्रतिमुद्वपेद्यासंभवे ॥ ८८॥

विभज्य भममूछेन विधिनचनमादिशेश् ॥ २०॥
चाः पर्वभादानकलास्लाहु सप्रगुएां निचिम्।
उत्कासासां विजानीयात् fिधिभाट्रनिका: कलाः ॥ २१॥
घ जींतपर्वभागेभ्यः शं ाधयेट्यु द्विगुएां तिशिम्।
नेषु म匹डलमगगपु निधिनिषiं गता रविः ॥२२॥
विषुवन्न द्विरम्यसंसं रुपानं घड्गुएीक्रतम्।
पच्चा यद्धं पच्चाएं तिथिः स विषुवान् स्मुतः ॥ २२ ॥
परार्गन पस्चाश्द्पां धृतानि तटाढकं द्रेाएमतः प्रश्यम्य
निभिविंहीनं कुड वेसु कायं तन्नाडिकायासु भवेत्र्रमाएम् ॥ २४ ॥
एकाद शभिरम्यस्य, पर्वाण़ नवभिरिस्थिम्।
युग्लब्ब सपर्व स्य।द्वर्तमानार्कम क्रमात्॥ ॥थ॥ ॥

तिधियुता भुन्तिर्दिनेषु कालो योगं दिनैकाद्शकेन नद्झम् ॥ Pई॥
च्यंशी भषेषे दि वसांश्रभागख्यतुर्दश ख्वाप्यपनीय भिन्नम्।

निस्यम्इां मषट्षश्विरव्द: षट चर्तवेाडयन।
सासा द्वादश स्बर्याः स्यरेतत्पचुगुएं युगम्॥ २戸॥
उद्या वासवस्य स्युर्द्र नराशि: खपचकः।
फृषेर्द्विषfिहींनं स्याद्विंश्या चैकया सृए।म् ॥ PC॥
पच्चिंशं ूतं पैष्एमेकोनसयनान्यूषः।
पर्वएां स्याचतुष्पादी काष्ठानां चैंय ताः कला॥ २०॥


[^0]:    ${ }^{1}$ ga ly' atṭhahi, C.
    2 yutam, C.
    ${ }^{3}$ patthitam M. wanting in C.
    4 iti vuttodaye mattá, M.
    ${ }_{5}$ bho, M.
    ${ }^{6}$ ro, M.
    t bhatá, C and M.
    ${ }^{8}$ suddhaviraditam, C ; matam wanting in M.
    3 'kkhyáto, C; panavo 'kkhyáto, M.

[^1]:    ${ }^{1}$ garuñ ce, $\mathbf{C}$.
    ${ }^{2}$ áklkhyatiká, C; álkhátiká, M.
    ${ }^{3}$ bhavati haritapluta, C.
    ${ }^{4}$ yadi va, C ; ca wanting, M.
    ${ }^{5}$ yuvádikámalí, M.
    ${ }^{6}$ rajátu 'sa me same, M; rajá tu same 'same, C.
    ${ }^{7}$ sa nádimhá, C ; sn'-á' dimha, M.
    ${ }^{8}$ aṇnava, C.
    ${ }^{\bullet}$ aññáa, C. and M.
    ${ }^{10}$ dissati, C.
    ${ }^{12}$ tv evam ime, C and MI .
    ${ }^{12} \mathrm{lo}, \mathrm{C}$ and M .

[^2]:    z likhyá, C.
    ${ }^{2}$ vimissate, C.
    ${ }^{3}$ dve 'mam, C.
    ${ }^{4}$ sambhavo, C ; yávasambhave, MI.
    ${ }^{5}$ iti - paricchedo omitted, C.
    ${ }^{6}$ therapádo, C ; therápádo, M.
    ${ }^{7}$ garúguṇa garújayatam, M ; gurugunag'uru jayatana, C.

    - mamedisopi, M.
    - sádhayantrevam, C ; sádhayantena m', M.

[^3]:    ${ }^{2}$ It is also an established rule in Páli prosody that consonants may be doubled, in order to give prosodial length to a naturally short vowel (vide v. 134.)

[^4]:    ${ }^{1}$ See Jour., As. Soc. Beng., Part I, No. 2, 1875, pp. 96 and 108.

[^5]:    * J. A. S. B., Part 1, No. 2, 1875, pp. 96.

